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ABSTRACT

This paper presents four questionnaire surveys administered in educational research. Each of the questionnaires is followed by a brief research report with an abstract and summary statistics. The first survey, "Guam Undergraduate Women Questionnaire," explores the status aspiration and gender awareness of undergraduate women in Guam. Responses of 11 women provide a profile of female undergraduates, but do not show significant differences between Chamorro (Guam ethnic group) and non-Chamorro women. The second questionnaire, the "Computer-Assisted Instruction Questionnaire," was developed in 1995 to identify and prioritize the factors influencing a university faculty's use of computer-assisted instruction in Singapore. Responses of 62 faculty members show the inhibitors and facilitators of using computer assisted instruction. The third questionnaire, the "Diversity and Multiculturalism Questionnaire," was developed in 1999 to determine the attitudes of the faculty of the University of Guam toward multicultural education, with a focus on diversity, ethnicity, and pluralism. Responses from 104 faculty members showed no significant differences among teachers of various ethnic groups toward multicultural education. The final questionnaire, the "Multicultural Education Questionnaire," was developed in 2000 to analyze the theory and practice of multiculturalism in higher education in Guam, focusing on faculty strategies in incorporating multicultural pedagogic strategies at an American Pacific island university. Sixty-five faculty members responded, with most expressing support for and interest in multicultural education. (SLD)

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QUESTIONNAIRE SURVEYS:
FOUR SURVEY INSTRUMENTS IN EDUCATIONAL RESEARCH

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QUESTIONNAIRE SURVERYS: FOUR SURVEY INSTRUMENTS IN EDUCATIONAL RESEARCH

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Survey research is "used to measure attitudes, opinions, or achievements—any number of variables in natural settings" (Wiersma, 2000, p. 157). Questionnaires and interviews are the two commonly used methods in survey research. Methods have advantages and disadvantages; however, compared with interviews, questionnaires can reach large numbers of people at relatively low costs, and can ensure anonymity, and in addition to that questions can be written for specific purposes. Certainly questionnaire surveys are widely used research instruments in educational research as well as applied social research. The purpose of this paper is to present four questionnaire surveys administered in educational settings. Each of the questionnaires is followed by a brief research report with an abstract and summary statistics.

The first questionnaire survey, *Guam Undergraduate Women Questionnaire*, was developed in 1998 to explore the Guam undergraduate women's status aspiration and gender awareness, identifying their educational and social aspirations. The second questionnaire, *Computer-Assisted Instruction Questionnaire*, was developed in 1995 to identify and to prioritize the factors influencing the university faculty's use of computer-assisted instruction. The third questionnaire, *Diversity and Multiculturalism Questionnaire*, was developed in 1999 to determine the attitudes of the University of Guam faculty toward multicultural education, with the focus on diversity, ethnicity, and pluralism. The fourth questionnaire, *Multicultural Education Questionnaire*, was developed in 2000 to analyze the theory and practice of multiculturalism in higher education in Guam, with the focus on faculty experiences in incorporating multicultural pedagogic strategies at an American Pacific island university.

Reference

Wiersma, W. (2000). Research methods in education. Needham Heights, MA: Allyn & Bacon

SURVEY INSTRUMENT
IN EDUCAITONAL RESEARCH

GUAM UNDERGRADUATE WOMEN QUESTIONNAIRE

GUAM UNDERGRADUATE WOMEN QUESTIONNAIRE

1 Your ethnicity (circle only one number):
- (1) Chamorro
- (2) Filipino
- (3) Asian
- (4) Micronesian
- (5) "Stateside" American
- (6) Other (please specify):

2 Your age in years (circle one):
- (1) 21 or less
- (2) 22-24
- (3) 25-27
- (4) 28-30
- (5) 31 or over

PART ONE: ACADEMIC AND SOCIAL ASPIRATIONS

Please rate each of the questions below by circling the appropriate number using the following scale.

5 = of utmost importance
4 = very important
3 = of moderate importance
2 = of little importance
1 = not important at all

1 How important is it for you to graduate from university?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

2 How important is it to your family that you graduate from university?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

3 How important is it for you to go to professional school (e.g., law school, medical school)?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

4 How important is it for you to go to graduate school (master's program)?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

5 How important is it for you to go to graduate school (doctoral program)?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

6 How important is it for you to become financially independent ?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

7 How important is it to your family that you become financially independent ?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

8 How important is it for you to have a prestigious occupation (such as a doctor, a lawyer, or a certified public accountant)?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

9 How important is it for you to have a profitable job (make a lot of money but not necessary socially prestigious)? 5 ----------4 ---------- 3 ---------- 2 ----------1

10 How important is it for you to get married in your 20s or early 30s?
5 ----------4 ---------- 3 ---------- 2 ----------1

11 How important is it for you to have and raise your own children?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

12 How important is it for you to combine two roles (family and work)?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

13 How important is it for you to attain a position of great influence?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

14 How important is it for you to contribute to society through working?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

15 How important is it for you to achieve a sense of self-worth and satisfaction through working?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

16 How important is (was) it for you to marry a man with a high social standing?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

17 How important is (was) it to your family that you marry a man who has a high social standing?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

18 How important is it for you to have a family and have a career at the same time?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

19 How important is it to you that your children go to a prestigious university?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

20 How important is it for you to be involved in the government and politics?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

21 How important is it for you to enter into business?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

22 How important is it for you to enter into the academic world?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

23 How important is it for you to work in the areas, such as social welfare and health care?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

24 How important is it for you to engage in your church affairs?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

25 How important is it for you to make a good connection to improve your (and your husband's) social standing? 5 ---------- 4 ---------- 3 ---------- 2 ----------1

26 How important is it for you to choose friends with whom you associate?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

27 How important is it for you to attain a set of status dimensions (that is, wealth, power, and prestige) in life? 5 ---------- 4 ---------- 3 ---------- 2 ----------1

28 How important is it for you to become generative in your generation and to become a mentor for the next generation? 5 ---------- 4 ---------- 3 ---------- 2 ----------1

29 How important is it for you to be society important?
5 ---------- 4 ---------- 3 ---------- 2 ----------1

30 What a kind of job would you like to have after graduating from university? (Write in your answer; for example, high school teacher, and nurse):

PART TWO: GENDER EQUALITY IN EMPLOYMENT

Please rate each of the questions below by circling the appropriate number using the following scale.

5 = strongly agree
4 = agree
3 = undecided
2 = disagree
1 = strongly disagree

Q: They say that there are gender discriminations in the following areas of employment opportunities and treatments. What do you think?

1 Recruitment and selection 5 ---------- 4 ---------- 3 ---------- 2 ----------1

2 Placement 5 ---------- 4 ---------- 3 ---------- 2 ----------1

3 Job content 5 ---------- 4 ---------- 3 ---------- 2 ----------1

4 Training and education 5 ---------- 4 ---------- 3 ---------- 2 ----------1

5 Wages 5 ---------- 4 ---------- 3 ---------- 2 ----------1

6 Promotion 5 ---------- 4 ---------- 3 ---------- 2 ----------1

7 Retirement 5 ---------- 4 ---------- 3 ---------- 2 ----------1

Other (please specify):

Q: They say that the following things are important so that women can continuously develop their job skills and get promotions at the workplace. What do you think?

1 Expansion of public nursery and nursing homes. 5 ------ 4 ------ 3 ------ 2------- 1

2	Driving off the general social view, "Men at work, women at home."	5 ------ 4 ------ 3 ------ 2------- 1
3	Advancement of a child-care leave and reemployment system for women.	5 ------ 4 ------ 3 ------ 2------- 1
4	Improving equal-opportunity-employment in general.	5 ------ 4 ------ 3 ------ 2------- 1
5	Advancement of men's understanding and cooperation at home and at work.	5 ------ 4 ------ 3 ------ 2------- 1
6	Advancement of women's access to high status occupations dominantly held by men.	5 ------ 4 ------ 3 ------ 2------- 1
7	Increasing educational and training opportunities for women in professional fields.	5 ------ 4 ------ 3 ------ 2------- 1
8	Increasing women's work consciousness and the importance of hard work.	5 ------ 4 ------ 3 ------ 2------- 1

Other (please specify):

PART THREE: SELF-EVALUATION

Please rate each of the questions below by circling the appropriate number using the following scale.

5 = always
4 = most of the time
3 = sometimes
2 = very rarely
1 = never

1	I am doing all right at this university.	5 ------ 4 ------ 3 ------ 2------- 1
2	I get along well with most of my teachers.	5 ------ 4 ------ 3 ------ 2------- 1
3	I get along well with most of my classmates.	5 ------ 4 ------ 3 ------ 2------- 1
4	I have a lot of self-control.	5 ------ 4 ------ 3 ------ 2------- 1
5	I like helping people.	5 ------ 4 ------ 3 ------ 2------- 1
6	I am happy.	5 ------ 4 ------ 3 ------ 2------- 1
7	I am comfortable with my sexuality.	5 ------ 4 ------ 3 ------ 2------- 1
8	Overall, I am satisfied with myself.	5 ------ 4 ------ 3 ------ 2------- 1

Note: Question items in Part Three were adopted from REBAY Youth Questionnaire, 1992.

PART FOUR: ABOUT YOURSELF

1 Which college of UOG you belong to (circle one):
- (1) Agriculture and Life Sciences
- (2) Arts and Sciences
- (3) Business and Public Administration
- (4) Education
- (5) Nursing and Health Science
- (6) Other (please specify):

2 Are you (circle one):
- (1) Freshman
- (2) Sophomore
- (3) Junior
- (4) Senior
- (5) Other (please specify):

3 Were you born and raised in Guam? (Circle one)
- (1) Yes
- (2) No

4 How long have you been in Guam? (Circle one)
- (1) 3 years or less
- (2) between 4 to 9 years
- (3) between 10 to 15 years
- (4) between 16 to 21 years
- (5) 22 years or more

5 Is English your primary language? (Circle one)
- (1) Yes
- (2) No

If "No," please specify what your primary language:

6 How well do you speak English? (Circle one)
- (1) Excellent
- (2) Good
- (3) Fair
- (4) Poor
- (5) Very poor

7 Are you married? (Circle one)
- (1) Yes
- (2) No

8 Do you have a child? (Circle one)
- (1) Yes
- (2) No

9 What level of formal education did your parents achieve? (Circle one)
Father:
(1) Master's degree or beyond
(2) Four-year college degree
(3) Two-year college degree
(4) Some college education
(5) High school diploma
(6) Some high school
(7) Less than high school
(8) Other (please specify):

10 What level of formal education did your parents achieve? (Circle one)
Mother:
(1) Master's degree or beyond
(2) Four-year college degree
(3) Two-year college degree
(4) Some college education
(5) High school diploma
(6) Some high school
(7) Less than high school
(8) Other (please specify):

11 Your parents' occupations? (Please specify)

Father:

Mother:

12 Have you lived in any other countries? (1) Yes (2) No

If "Yes," please specify. For example, "England - 3 years - study" (that is, which country, for how long, purpose of staying).

_____

13 If I would like to do a follow-up interview with you, is it all right with you? (Circle one)
(1) Yes (2) No

If "Yes," please write contact address and phone number.

Name: _____

Contact address: _____

_____

Contact phone number: _____

E-mail address: _____

You have made a helpful contribution to research on women by completing this questionnaire. Thank you for your time.

This study was an attempt to examine adult women's realization toward the quality of life, identifying their educational and social aspirations. A survey questionnaire was mailed to a random sample of the 350 undergraduate women at the University of Guam. The usable response rate was 32% (N = 111). The respondents indicated their strong desires to achieve self-satisfaction through pursuing occupational careers and earning their own incomes. For this sample of women there were no significant differences between two groups (Chamorro vs. non-Chamorro) in terms of aspirations and characteristics. Thus there were very similar patterns in their priorities of educational and social aspirations. Guam has evolved into a multiethnic society; and the University is the major institution of higher education in the western Pacific. Are the characteristics of women with different ethnic and cultural backgrounds merged with native women of Guam through social interactions and learning experinces on campus? Implications of the study and directions for further research were discussed.

Guam Undergraduate Women's Status Aspirations

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"More and more," according to a relatively recent study, "our [Chamorro] women have to prepare ourselves for the world. Not just to be a homemaker but to face the world as a breadwinner and ultimately to take care of their own families" (Souder, 1992, p. 104). As noted by Eisler (1995), over the past two decades it has become increasingly apparent to those concerned with the global situation from a perspective sensitive to women's needs and rights that the degree to which women are accorded status equal to that of men has much to do with the quality of life throughout the world. This study, therefore, was an attempt to examine adult women's realization toward the quality of life, identifying their educational and social aspirations in particular.

Method

Based on the literature review and personal communications, a preliminary survey questionnaire was developed. To have content validity, the questionnaire was examined by a panel of the faculty and was revised based on the opinion of the panel; then it was pilot-tested to ascertain women aspirations. A copy of the final questionnaire, along with a cover letter and a stamped envelope, was mailed to each of the randomly selected 350 undergraduate women in 1998. The usable response rate was 32% (N = 111). The questionnaire consisted of twenty-nine (29) aspiration questions, fifteen (15) gender equality in employment questions, and eight (8) self-evaluation questions, in addition to demographic questions. The participants were asked to rate questions on the Likert scale (from 5 = of utmost important to 1 = not important at all). In prioritizing aspirations, the overall mean scores (M) and standard deviations (SD) for all the respondents by all the questions were calculated and arranged in descending order. With the alpha level of .05, *t* tests were used to determine the differences between Chamorro and non-Chamorro women in each of the aspiration questions. Table 1 indicates the comparisons of the ethnic background and age range for the population and the sample; it is fair to say that the sample is representative of the population. For this sample the Chamorros accounted for 44% and the non-Chamorros accounted for 56%.

Results and Discussion

The reliability coefficient alpha across all the 29 questions was .87. As seen in Table 2, the three top status aspirations for the respondents were "to graduate from a university" (M = 4.68, SD = .63), "to become financially independent" (M = 4.47, SD = .77), and "to achieve satisfaction through working" (M = 4.43, SD = .72). The two lowest aspirations were "to involve in the government and politics" (M = 2.58, SD = 1.06), and "to marry a man with a high social standing" (M = 2.75, SD = 1.22). The findings support the following theorized notion: "People work for economical (making a living), social (interaction with others) and psychological (self-esteem) reasons" (Lefrançois, 1999, p. 391). The sample indicated their strong desires to achieve self-satisfaction through pursuing careers and earning their own incomes.

As far as it is revealed by this study, contemporary adult women in Guam are preparing themselves for the world and are willing to become a breadwinner. Social status is measured by education, occupation, and income (Blau, 1975). In this regard, the participants' social aspirations are fairly high: "to graduate from a university" (M = 4.68); "to have a profitable job (i.e., to make money)" (M = 4.01); and "to have a prestigious occupation (i.e., doctor or lawyer)" (M = 3.80). Guamanian women also wish to have their own child (M =4.02), which must be rooted in Guam's historical matrilineal societies, though women have been historically identified with the domestic domain of home and family.

Based on the data, a typical undergraduate woman at the University of Guam can be defined as follows: 1) she tends to specialize in either business or education (32% majored in business; 32 % in education); 2) she was born and raised in Guam (61%); 3) she is not married but is likely to become a single mother (26% married, yet 36% had a child); 4) she is confident in her English proficiency (65% said that their English was "excellent"); 5) she wishes to have a bachelor's degree at least and then wants to pursue a graduate degree, to become financially independent, and to achieve job satisfaction; and 6) she is comfortable with her sexuality (M = 4.62) and is happy most of the time (M = 3.99).

Finally, there were no significant differences between Chamorro and non-Chamorro women in terms of their aspirations, expectations, desires, and characteristics. In other words, there are very similar patterns in their priorities of educational and social aspirations. Are the characteristics of women with different ethnic and cultural backgrounds merged with native women of Guam through their social interactions and learning experiences on campus? Although this phenomenon should be further investigated, one helpful explanation may be that Guam is such a small (only 209 square miles) island society and that the participants of the study went to the same high schools.

References

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Lefrancois, G. R. (1991). *The lifespan*. Wadsworth Publishing Company.

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Table 1
Summary of the Population and the Sample Women

Undergraduates Enrollment (the 1998 Spring Semester)		
Man	1,374	(39%)
Woman	2,146	(61%)
Total	3,520	(100%)

Ethnic Background	Population		Sample	
Chamorro	918	(42.8%)	49	(44.1%)
Asian Philippine	663	(30.9%)	42	(37.8%)
Asian Other	192	(8.9%)	10	(9.0%)
Micronesian	111	(5.2%)	3	(2.7%)
"Stateside" American	190	(8.9%)	3	(2.7%)
Other	72	(3.4%)	4	(3.6%)
Total	2,146	(100.0%)	111	(100.0%)

Age Range	Population		Sample	
21 or less	753	(35.1%)	45	(40.5%)
22-24	499	(23.3%)	29	(26.1%)
25-27	269	(12.5%)	12	(10.8%)
28-30	154	(7.2%)	4	(3.6%)
31 or over	470	(21.9%)	21	(18.9%)
Total	2,146	(100.0%)	111	(100.0%)

Table 2
Descriptive Statistics in Academic and Social Aspirations (N= 111)

Rank	Aspiration Description	M	SD
1	To graduate from university	4.68	.63
2	To become financially independent	4.47	.77
3	To achieve satisfaction through working	4.43	.72
4	To your family that you graduate from university	4.27	.94
5	To combine two roles: home and work	4.05	.99
6	To have a family and have a career at the same time	4.02	1.04
7	To have and raise your own child	4.02	1.11
8	To have a profitable job, not necessary prestigious	4.01	.88
9	To your family that you become financially independent	4.00	1.03
10	To contribute to society through working	4.00	.90
11	To become a mentor for the next generation	3.88	1.01
12	To have a prestigious occupation (e.g., doctor, lawyer)	3.80	1.13
13	To attain a position of great influence	3.77	1.09
14	To go to graduate school (master's program)	3.76	1.06
15	To enter into the academic world	3.62	1.02
16	To you that your child goes to a prestigious university	3.57	1.21
17	To choose friends with whom you associate	3.50	1.05
18	To be involved in your church affairs	3.48	1.12
19	To make a connection to improve your social standing	3.42	1.07
20	To attain status dimensions (wealth, power, prestige)	3.25	1.15
21	To work in the area of social welfare or health care	3.24	1.22
22	To go to professional school (e.g., law or medical)	3.23	1.15
23	To get married in your 20s or early 30s	3.21	1.27
24	To be society important in your life	3.16	1.01
25	To go to graduate school (doctor's program)	3.12	1.17
26	To enter into the business world	2.96	1.17
27	To your family that you marry a man with a high social status	2.84	1.21
28	To marry a man with a high social standing	2.75	1.22
29	To be involved in the government and politics	2.58	1.06

SURVEY INSTRUMENT
IN EDUCATIONAL RESEARCH

COMPUTER-ASSISTED INSTRUCTION QUESTIONNAIR

COMPUTER-ASSISTED INSTRUCTION QUESTIONNAIRE

In parts of 1 and 2, use the following scale to rate each statement and circle the number that best describes your answer.

1 .....2 .....3 .....4 5

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Part I: Please indicate the extent to which you think the following factors <u>facilitate</u> the implementation of CAI in college classrooms?

1	Adoption of a college-wide policy concerning computer use.	1	2	3	4	5
2	Support from the Ministry of Education.	1	2	3	4	5
3	Teachers' knowledge and skills in information technology in education.	1	2	3	4	5
4	Availability of necessary hardware.	1	2	3	4	5
5	Availability of teachers' time.	1	2	3	4	5
6	Commitment by the faculty who are involved.	1	2	3	4	5
7	Administrative support (president, dean, department heads of the university).	1	2	3	4	5
8	Systematic planning for CAI introduction and use as part of college's policy.	1	2	3	4	5
9	Special recognition for faculty who develop CAI.	1	2	3	4	5
10	Collaboration among CAI developers and users throughout the university.	1	2	3	4	5
11	Integration of CAI with universities' goals and curriculum.	1	2	3	4	5
12	Demonstration of colleges' success with CAI.	1	2	3	4	5
13	Availability of information on software.	1	2	3	4	5
14	Availability of CAI authoring tools and the ease of using them.	1	2	3	4	5
15	Availability of commercial software.	1	2	3	4	5

Part II: Please indicate the extent to which you think the following factors are <u>barriers</u> to implementing CAI in college classrooms?

1	Lack of administration encouragement for integration of CAI in courses.	1	2	3	4	5
2	Inadequate financial resources.	1	2	3	4	5
3	Teachers' resistance to change.	1	2	3	4	5
4	Apprehension of teachers due to potential changes in roles of educators.	1	2	3	4	5
5	Lack of teachers' training in CAI.	1	2	3	4	5
6	Lack of time for working with CAI (modifying courses, evaluating courseware, and developing materials).	1	2	3	4	5
7	Incompatibility of present teaching methodology with CAI.	1	2	3	4	5
8	Skepticism regarding the effectiveness of CAI.	1	2	3	4	5
9	Problems of scheduling enough computer time for CAI.	1	2	3	4	5
10	Assumption that CAI demands a special curriculum and a special teacher to use it.	1	2	3	4	5
11	Unavailability of appropriate software.	1	2	3	4	5
12	Too few computers for the students (i.e., lack of hardware).	1	2	3	4	5
13	Lack of staff experiences in educational technology (technical support).	1	2	3	4	5
14	Lack of information on the potential of CAI.	1	2	3	4	5
15	Rapid changes in hardware and software.	1	2	3	4	5
16	Lack of achievement tests to evaluate CAI.	1	2	3	4	5
17	Lack of information on software availability.	1	2	3	4	5
18	Lack of suitably equipped classrooms.	1	2	3	4	5

Part III: Additional Questions

1 To what extent do you think CAI is useful as a teaching and learning tool? (Mark only one appropriate response):
( ) Extremely useful
( ) Very useful
( ) Useful
( ) Somewhat useful
( ) Not useful at all

2 Would you consider yourself as:
( ) User of CAI (do not regard word processing, e-mail, and computer presentation).
( ) Not user of CAI.

3 What is your level of knowledge about CAI? (Mark all appropriate answers)
( ) I know nothing about CAI.
( ) I know a little about CAI.
( ) I have read about CAI but never experienced it.
( ) I have seen demonstrations of CAI developed by others.
( ) I have developed CAI myself.
( ) Others (specify):

4 What is your highest degree:
( ) Ph.D.
( ) Ed.D.
( ) Masters
( ) Other

5 Sex:
( ) Male
( ) Female

6 Age in years:
( ) 30 or less
( ) 31 - 45
( ) 46 or over

7 College/university teaching experience in years): ( )

8 Elementary and/or secondary school teaching experience in years: ( )

9 Any comments on CAI:

A questionnaire was developed to identify and to prioritize the factors influencing the university faculty's use of computer-assisted instruction (CAI). The questionnaire was distributed to the business and education faculty of a prestigious university in Singapore, with 54% (N=62) of responding. As a result, the major facilitators were 1) teachers' knowledge and skills in technology and 2) availability of hardware/software, whereas 1) the lack of teachers' time and 2) the lack of technical support were most important inhibitors for the use of CAI. Overall, the results may be attributed to Singapore's favorable climate for the instructional use of computers at schools.

Determinants of the Faculty's Use of Computer-Assisted Instruction: Education Faculty versus Business Faculty

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Singapore is a small country (2.7 million people), and almost the entire educational system is public and subject to the control of government agencies. A pioneering CAI program with twenty-two networked microcomputers started in a secondary school in 1986 (Yip & Sim, 1990). The mission of that program was to evaluate CAI modes and to examine the effectiveness of the network as a CAI delivery mechanism. In fact, published studies on the effect of CAI in Singapore's schools have shown positive results, especially in Mathematics (Ong & Lee-Leck, 1986) and Geography (Low, 1988). Yet, little attention has been given to a fundamental issue; specifically, how teachers feel about the use of CAI.

Method

The participants were 62 respondents representing two groups (36 male and 26 female): 26 from the division of Education, which is part of the National Institute of Education (NIE) and 36 from Nanyang Business School (NBS) at Nanyang Technological University (NTU). The division of Education had 59 faculty members (40% male and 60% female). Of 208 faculty members in NBS, 75% were male and 25% were female. All the faculty of the Education received the questionnaire. To match this sample size, 59 faculty members of NBS were randomly selected. The questionnaire was pilot-tested through a personal interview with four Singaporean faculty members. Then the final version of the questionnaire was developed consisting of 15 facilitators and 18 inhibitors. Factors in each category were arranged in a random order to avoid any possible bias, and each of the 33 factors consisted of Likert-type ratings ranging from 1 = strongly disagree to 5 = strongly agree. One faculty from each entity agreed to serve as a contact person and received a packet containing an explanatory letter and 59 copies of the survey. Each contact person distributed, collected, and returned all the survey to the researcher in 1995. In comparing 1) users and non-users of CAI and 2) education and business faculty members, the overall mean scores for each of the facilitators and inhibitors by groups were calculated; and t-tests (at the alpha level of .05) were used to determine the differences for all factors between the two groups in the two comparisons.

Results and Discussion

The usable responses totaled 62 (54%). Most respondents were over 31 years of age (91%); 77% of the education faculty (NIE) and 56% of the business faculty (NSB) reported that they had more than six years of college teaching experience. And the majority of the business faculty (89%) had no precollege teaching experience, whereas the majority of the education faculty (88%) had teaching experiences.

Within Group Comparisons: The reliability coefficient across the 33 factors was .93. Mean scores were 4.06 (SD = .61) for all the facilitators and 3.74 (SD = .63) for all the inhibitors (see Table 1). The respondents agreed more strongly with the facilitators than with the inhibitors ($t = -4.37$, $p = .000$). CAI experts expressed an opinion on this: There is less need to enhance the facilitators than to depress the inhibitors in Singapore because the government is supporting the instructional use of computers. Teachers' knowledge and skills in technology, availability of hardware and software, and commitment by those involved in CAI were the important facilitators. The fact that "teachers' knowledge" is the most significant factor confirms that the Singapore government is using an appropriate strategy of providing teachers with technological knowledge through training programs. The results were consistent with other studies (e.g., Posner, Danielson, & Posner, 1992-93). These three inhibitors were the lack of teachers' time for CAI, the lack of technical support, and the cost of hardware. The three factors appear often in the literature as prime inhibitors for computer use in general. Dupagne and Krendl (1992) identified the first factor; the second was by Hammond et al. (1992); and the third was be Rosenberg (1992).

Between Group Comparisons: As seen in Table 2, The NIE group agreed significantly more strongly with both facilitators ($t = -2.28$, $p = .03$) and inhibitors ($t = -3.45$, $p = .001$) than did the NBS group. Six facilitators and eight inhibitors were significantly different between NIE and NBS. The highest-ranking facilitators for NIE are 1) availability of hardware and software and 2) commitment by those involved in CAI, compared with 1) availability of software information and 2) teachers' knowledge and skills in technology for NBS. The highest-ranking inhibitors for NIE are the lack of technical support, the lack of teacher training for computer use and the lack of teachers' time for CAI. In contrast, the lack of teachers' time for CAI, the lack of administrative supports, and the cost of hardware rank the highest for the NBS.

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Table 1
Priorities of Facilitators and Inhibitors for the Use of Computer-Assisted Instruction

Rank	Factor		M	SD
	(Facilitators)			
1	Teacher's knowledge/skills in technology.		4.32	.95
2	Availability of hardware (and software).		4.29	1.05
3	Commitment by those involved in CAI.		4.26	.96
4	Availability of software information.		4.23	78
5	Systematic planning for the use of CAI.		4.21	.83
6	Support from higher administration.		4.16	.96
7	Availability of teachers' time.		4.13	97
8	Availability of commercial software.		4.11	.96
9	Universities' formal policy for computer use.		4.03	1.04
10	Availability of CAI authoring tools		4.00	.94
11	Collaboration among developers and users.		3.98	1.05
12	Support from the government.		3.94	.74
13	Demonstration of other schools' CAI uses.		3.84	.85
14	Integration of CAI with schools' goals.		3.81	.96
15	Recognition/motivation of the faculty.		3.53	.92
		Average	4.06	61
	(Inhibitors)			
1	The lack of teachers' time for CAI		4.08	.95
2	The lack of technical support.		4.06	.94
3	The cost of hardware (financial resources).		3.98	1.11
4	The lack of teacher training for computer use.		3.97	97
5	Teachers' resistance to change.		3.92	1.03
6	The lack of quality and suitable software		3.90	1.13
7	Incompatibility: teaching method with CAI.		3.89	.89
8	The lack of administrative support.		3.85	1.02
9	Scheduling problems to use computers.		3.76	1.07
10	The lack of appropriate hardware.		3.74	1.19
11	The lack of suitably equipped classrooms.		3.71	1.14
12	Skepticism on the effectiveness of CAI.		3.56	1.11
13	The lack of access to software information.		3.55	.99
14	Apprehension of teachers in teaching		3.55	1.04
15	Rapid changes in hardware and software		3.52	.82
14	The lack of information on CAI potentiality		3.45	1.05
17	The lack of tests to evaluate CAI.		3.45	.86
18	Assumption: CAI needs special curricula.		3.40	1.09
		Average	3.74	.63

Table 2
Priorities of Facilitators and Inhibitors for the Use of Computer-Assisted Instruction: NIE (Education Faculty) versus NBS (Business Faculty)

Item Number		NIE N = 26	NBS N = 36
	(Facilitators)		
1	Universities' policy for computer use.	4.12	3.97
2	Support from the government.	4.27	3.86
3	Teachers' knowledge/skills in technology.	4.54	4.17
4	Availability of hardware (and software).	4.62*	4.06*
5	Availability of teachers' time.	4.42*	3.92*
6	Commitment by those who involved in CAI.	4.62*	4.00*
7	Support from higher administration.	4.31	4.06
8	Systematic planning for the use of CAI.	4.42	4.06
9	Recognition/motivation of the faculty.	3.81*	3.33*
10	Collaboration among developers and users.	4.15*	4.77*
11	Integration of CAI with schools' goals.	3.92	3.72
12	Demonstration of other schools' CAI uses.	4.12*	3.64*
13	Availability of software information.	4.19	4.25
14	Availability of CAI authoring tools.	4.04	3.97
15	Availability of commercial software.	4.35	3.94
	Average	4.26*	3.91*
	(Inhibitors)		
1	Lack of administrative supports.	3.92	3.81
2	Cost of hardware (financial resources).	4.23	3.80
3	Teachers' resistance to change.	4.35	3.61
4	Apprehension of teachers in teaching.	4.20*	3.08*
5	Lack of teacher training for computer use.	4.38*	3.67*
6	Lack of teachers' time for CAI.	4.38*	3.86*
7	Incompatibility: teaching method with CAI.	4.04	3.78
8	Skepticism on the effectiveness of CAI.	3.69	3.47
9	Scheduling problems to use computers.	4.00	3.58
10	Assumption: CAI needs special curricula.	3.81*	3.11*
11	Lack of quality and suitable software.	4.12	3.75
12	Lack of appropriate hardware.	4.04	3.53
13	Lack of technical support.	4.46*	3.78*
14	Lack of information on CAI potentiality.	3.79*	3.22*
15	Rapid changes in hardware and software.	3.89*	3.25*
16	Lack of tests to evaluate CAI.	3.54	3.39
17	Lack of access to software information.	3.76	3.39
18	Lack of suitably equipped classrooms.	4.15*	3.39*
	Average	4.04*	3.53*

* Indicates a statistically significant difference between the two groups (1 = strongly disagree, 5 =strongly agree), $p < .05$.

SURVEY INSTRUMENT
IN EDUCATIONAL RESEARCH

DIVERSITY AND MULTICULTURALISM QUESTIONNAIRE

DIVERSITY AND MULTICULTURALISM QUESTIONNAIRE

PART 1
DIVERSITY AND MULTICULTURALISM (Circle only one per question)

Please rate each of the questions below by circling the appropriate number using the following scale. (Please answer every question because blank answers may invalidate the results.)

1 = not important
2 = of little importance
3 = of moderate importance
4 = very important
5 = of utmost importance

1	How important is it for you to be friends with someone from a different culture on Guam or anywhere?	1	2	3	4	5
2	How important is it for you to associate with people from the same cultural and ethnic backgrounds as your own?	1	2	3	4	5
3	How important is it for you to become informed about cultural and ethnic differences?	1	2	3	4	5
4	How important is it for you to be exposed to a culturally diversified environment?	1	2	3	4	5
5	How important is it for you to employ Western pedagogy in your teaching?	1	2	3	4	5
6	How important is it for you to provide an environment for the free and open expression of ideas and beliefs?	1	2	3	4	5
7	How important is it for you to support the academic success of students from different cultural and ethnic background than your own?	1	2	3	4	5
8	How important is it for you to integrate multicultural perspectives in your teaching?	1	2	3	4	5
9	How important is it for you to collaborate on research and teaching with colleagues from the same cultural and ethnic backgrounds as your own?	1	2	3	4	5
10	How important is it for you to respect and accommodate students' individual and culture-based learning styles?	1	2	3	4	5

11 How important is it for you to take the time to learn about students' backgrounds and cultural characteristics?	1	2	3	4	5
12 How important is it for you to use culturally relevant examples in teaching?	1	2	3	4	5
13 How important is it for you to become a culturally sensitive teacher?	1	2	3	4	5
14 How important is it for you to provide multicultural instructional materials?	1	2	3	4	5
15 How important is it for you to eradicate prejudice in your personal life?	1	2	3	4	5
16 How important is it for you to eradicate prejudice in your professional life?	1	2	3	4	5
17 How important is it for you to encourage students to understand or be aware of other cultures?	1	2	3	4	5
18 How important is it for you to challenge and avoid using stereotypes in teaching?	1	2	3	4	5

PART II
CULTURAL PLURALISM

19 Please indicate to what degree you agree or disagree with the following statement: Cultural and ethnic diversity is an asset that enriches the learning process? (Circle only one)

(1) Strongly Disagree
(2) Disagree
(3) Undecided
(4) Agree
(5) Strongly Agree

PART II
ABOUT YOURSELF (Circle only one per question)

20 You are:

(1) Female
(2) Male

21 Age in years:

(1) 25 or less
(2) 26 - 35
(3) 36 - 45
(4) 46 - 55
(5) 56 - 65
(6) 66 or over

22 Total years of your teaching (outside and within UOG, including all educational levels):

(1) 5 or less
(2) 6-10
(3) 11-15
(4) 16-20
(5) 21 or over

23 What ethnic background do you identify with the most:

(1) Chamorro
(2) Filipino
(3) Asian (Chinese, Korean, Japanese, Vietnamese, Thai, Indian and other)
(4) Micronesian
(5) Other Pacific Islander
(6) "Stateside" Caucasian
(7) "Stateside" Other
(8) Other (please specify):

24 Your highest academic degree:

(1) Associates
(2) Bachelors
(3) Masters (or equivalent)
(4) Doctorate (or professional degrees, e.g., law or medicine)
(5) Other (specify):

Thank you so much for your cooperation!

This study examined the University of Guam faculty members' attitudes toward multicultural education, with the general focus on diversity, ethnicity, and pluralism. Approximately 51% of the full-time faculty participated in the survey questionnaire (N = 104). Results of the survey indicated that 71% of the respondents strongly agreed with the notion of pluralism, that is, cultural and ethnic diversity is an asset that enriches the learning process. The respondents, regardless of gender, age, ethnic background, or teaching experience, rated the importance of diversity and multiculturalism very high. The results further indicated that Guam is a "colorful salad bowl" of humanity and multicultural education is an important facet of course development in higher education.

Faculty Attitudes toward Diversity and Multiculturalism in an American Pacific Island University

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This quantitative study was conducted to determine the degree that diversity was embraced and celebrated. This is especially important in universities where the relationship between teachers and students is inherently unequal, with the former having considerably more power over the latter. An attempt was therefore made for a better understanding of the dynamics of diversity within a university environment. With the focus on faculty beliefs about and attitudes toward multicultural education, the more general questions in this study centered on such concepts as ethnicity, diversity, multiculturalism, pluralism, and ethnic relation.

Method

The intended population for the study was the entire full-time faculty at the University of Guam (UOG). Faculty members participated in a survey questionnaire, and the usable response rate was 51%. Of the 104 respondents, as seen in Table 1, the largest ethnic group was from Caucasian background (50%), and the Chamorro group comprised the second largest (17%). A questionnaire consisting of three sections was designed, piloted, and examined for content validity and reliability by a panel of faculty members. Five elements of teachers' knowledge base (Haberman & Post, 1998, pp. 98-99) were used to develop 18 diversity and multiculturalism questions in the first section (see Table 2). Ratings were given on a five point Likert-type scale ranging from 1 = not important to 5 = of utmost importance. Similarly, in the second section, one question asked for the perceived value of pluralism on a five-point Likert-type scale from 1 = strongly disagree to 5 = strongly agree. The third section contained such five demographic items as gender, age, ethnic background, academic degree, and years of teaching experience.

With confidentiality assured and the permission of the UOG's Human Resources Office, the questionnaire was distributed to all of the 205 full-time faculty members during the fall semester of 1999. Internal consistency reliability estimated by computing alpha coefficients for the clusters ranged from .28 (relationship skills) to .79 (empathy). It should be noted that the coefficient alpha of .28 is unreliable, indicating that items in relationship skills are not measuring the same thing. Analysis of variance was used to examine if the obtained sample and potential sample would differ significantly on the variables of gender, age, ethnicity, and teaching experience in each of the elements. A large percentage of the sample

was Caucasian and other ethnic categories were therefore grouped into one. Frequencies and percentages were calculated for the perceived value of pluralism applied to education.

Results and Discussion

Nearly 92% of the UOG students are characterized by the U.S. Department of Education as coming from minority groups: 48% of them are native Pacific Islanders, 32% Filipino, and 8% other Asian. On the other hand, the faculty members are less diverse: 60% are from Caucasian background, 22% native Pacific Islanders,10% Asian and 5% from Filipino background. This contrast between the ethnic composition of the students and that of the faculty is well known on campus, and there are continual efforts to encourage and train faculty to work within this multicultural environment.

Faculty Attitudes toward Multicultural Education. The participants answered the 18 questions, such as "How important is it for you to integrate multicultural perspectives in teaching?" Overall, no significant differences were found at the alpha level of .01. This means that no significant differences were determined on the four demographic variables in the five elements (relationship skills, community knowledge, empathy, cultural conflicts, and relevant curriculum). As one dimension of multicultural education, Banks (1994) states, "The equitable pedagogy dimension concerns ways to modify teaching so as to facilitate academic achievement among students from diverse groups" (p. 4). In this regard, the mean score of the participants for item #7 ("to support the academic success of students from different cultural and ethnic backgrounds than your own") is high (M = 4.57, SD = .80). The four elements (#7, #18, #13, and #3) in empathy are fairly high. These mean scores might be an indication of the participants' willingness to enhance positive attitudes toward different cultural and ethnic groups. Even though the majority of the UOG faculty was Caucasians (60%), the sample was evenly distributed between Caucasians (50%) and non-Caucasians (50%). It was assumed that non-Caucasians might be more interested in multicultural education than Caucasians. There was no difference between the two groups, however. This study also indicated that teaching experience was not a significant factor in the attitudes toward multicultural education. As noted by Pohan (1996), it may be that cross-cultural experience is the key variable rather than teaching experience that is related to multicultural awareness.

Perceived Value of Pluralism in Education. Surprisingly enough, 95% of the respondents agreed with the notion of pluralism (i.e., cultural and ethnic diversity is an asset that enriches the learning process). In short, cultural pluralism is the mutual respect for all cultural groups and allows minorities to express their own culture (McDonald & Balgopal, 1998). The UOG faculty ranked the need for multicultural education very high. This is a hopeful finding, especially given the fact that UOG is a minority university and is comprised of students from a diversity of cultures, languages, and worldviews.

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Table 1
Demographic Data for Faculty Participants (N =104)

	Frequency	Percentage
Age (in years):		
25 or less	1	0.9
26-35	6	5.8
36-45	35	33.7
46-55	37	35.6
56-65	22	21.1
66 or over	3	2.9
Highest Academic Degree:		
Associate	1	1.0
Bachelor	1	1.0
Master	25	24.0
Doctorate	77	74.0
Other	0	0.0
Total Years of Teaching (outside and within UOG, including all educational levels):		
5 or less	15	14.4
6-10	16	15.3
11-15	25	24.0
16-20	12	11.5
21 or over	31	29.8
No answer	5	4.8

Table 2
Rank Order by Mean Scores for the Five Elements of Teachers' Knowledge Base

Elements	M	SD	N
Relationship Skills:			
▪ to be friends with someone from a different culture in Guam or anywhere (#1)	3.76	1.02	104
▪ to collaborate on research and teaching with colleagues from the same cultural and ethnic backgrounds as your own (#9)	2.81	1.25	103
Internal consistency reliability = .2848			
Community Knowledge:			
▪ to understand or be aware of other cultures and heritage (#17)	4.45	.88	104
▪ to be exposed to a culturally diversified environment (#4)	4.19	.98	104
▪ to take the time to learn about students' backgrounds and cultural characteristics (#11)	4.13	.88	104
▪ to respect and accommodate students' individual and culture-based learning styles (#10)	4.04	.90	104
Internal consistency reliability = .7724.			
Empathy:			
▪ to support the academic success of students from different cultural and ethnic backgrounds than your own (#7)	4.57	.80	104
▪ to challenge and avoid using stereotypes in your teaching (#18)	4.45	.94	104
▪ to become a culturally sensitive and responsive teacher (#13)	4.52	.78	103
▪ to become informed about cultural and ethnic differences (#3)	4.29	.81	104
Internal consistency reliability = .7935			
Cultural Conflicts:			
▪ to eradicate prejudice in your professional life (#16)	4.71	.71	104
▪ to eradicate prejudice in your personal life (#15)	4.64	.79	104
▪ to employ Eurocentric pedagogy in your teaching (#5)	3.30	1.00	101
▪ to associate with people from the same cultural and ethnic backgrounds as your own (#2)	3.21	1.15	104
Internal consistency reliability = .5078			
Relevant Curriculum:			
▪ to provide an environment for the free and open expression of ideas and beliefs (#6)	4.62	.72	104
▪ to use culturally relevant examples and materials in teaching (#12)	4.33	.85	104
▪ to integrate multicultural perspectives in your teaching (#8)	4.22	1.01	104
▪ to be exposed to a culturally diversified environment (#4)	4.19	.98	102
Internal consistency reliability = .7640			

SURVEY INSTRUMENT
IN EDUCATIONAL RESEARCH

MULTICULTURAL EDUCATION QUESTIONNAIRE

MULTICULTURAL EDUCATION QUESTIONNAIRE

PART 1 - Multicultural Education

Please rate each of the questions below by circling the appropriate number using the following scale. (Please answer every question because blank answers may invalidate the results.)

1 = very seldom
2 = seldom
3 = sometimes
4 = frequently
5 = very frequently

1 How often do you accommodate different viewpoints of your students regardless of their cultural/ethnic backgrounds? 1 2 3 4 5

2 How often do you utilize interdisciplinary approaches in your teaching? 1 2 3 4 5

3 How often do you try to get every student involved in a class discussion? 1 2 3 4 5

4 How often do you have high expectations for your students regardless of their cultural and ethnic backgrounds? 1 2 3 4 5

5 How often do you accommodate different learning styles of your students regardless of their cultural/ethnic backgrounds? 1 2 3 4 5

6 How often do you have a collaborative/collegial partnership with colleagues from the same cultural/ethnic background in your teaching? 1 2 3 4 5

7 How often do you use culturally relevant or responsive textbooks in your teaching? 1 2 3 4 5

8 How often do you encourage students whose second language is English to express themselves in the classroom? 1 2 3 4 5

9 How often do you integrate multicultural perspectives in your teaching? 1 2 3 4 5

10 How often do you support the academic success of your students regardless of their cultural and ethnic backgrounds? 1 2 3 4 5

11 How often do you engage in a collaborative/collegial partnership with colleagues from different cultural/ethnic backgrounds in teaching? 1 2 3 4 5

12 How often do you listen to your students interactively and attentively regardless of their cultural and ethnic backgrounds? 1 2 3 4 5

13 How often do you provide your students with multicultural instructional materials (in class exercises, using videos, films, etc.)? 1 2 3 4 5

14 How often do you devote your energies to developing and improving your knowledge of cultural diversity? 1 2 3 4 5

15 How often do you attempt to eradicate prejudice and stereotypes that your students may have? 1 2 3 4 5

16 How often do you accommodate cultural/ethnic differences of your students in the classroom? 1 2 3 4 5

17 How often do you incorporate those cultural/ethnic differences in your teaching methodology? 1 2 3 4 5

18 Do you evaluate attitudes and behaviors of other cultural/ethnic groups from your own cultural/ethnic standards? (Circle one)

(1)	(2)	(3)	(4)	(5)
Never	Seldom	Sometimes	Usually	Always

PART II - Multiculturalism in the classroom

19 Using the following scale to rate each statement, indicate how many times you have done each of the following in the past year. (Circle only one per item)

(1) One to two (1-2) times
(2) Three to four (3-4) times
(3) Five to six (5-6) times
(4) Seven to eight (7-8) times
(5) Nine to ten (9-10) times
(6) Eleven (11) times or more

19-1 Selection and use of appropriate textbooks 1 2 3 4 5 6

19-2 Enhancing the syllabus to address diversity and multiculturalism
1 2 3 4 5 6

19-3 Brainstorming approach with the students about their needs and wants
1 2 3 4 5 6

19-4 Open discussion to allow students to share their own views and opinions
1 2 3 4 5 6

19-5 Inviting other colleagues as guest lecturers to offer the students a different perspective
1 2 3 4 5 6

19-6 Inviting your colleagues to observe your teaching and offer feedback
1 2 3 4 5 6

19-7 Other (please specify):

20 In what ways do you as a professor expand or enhance your knowledge and awareness about issues of multiculturalism and diversity? (Circle **all** numbers that apply)

(1) Collaborating in teaching with colleagues from cultural backgrounds other than your own
(2) Collaborating in research with colleagues from cultural backgrounds other than your own
(3) Attending lectures, conferences, and workshops on topics that may contribute to your knowledge of other cultures
(4) Using other avenues (television, journals, books, etc.) in search for knowledge and understanding
(5) By visiting, traveling (that is, exposing oneself to other cultures in Micronesia, the Pacific and Asia)
(6) By associating and learning from people (outside of academia) from cultures and ethnicities other than your own
(7) Other (please specify):

21 In your opinion what is the state of multiculturalism at the University of Guam? Please offer some examples that might illustrate your comments.

_____

_____

PART III - About Yourself (Circle only one per question)

22 You are:
- (1) Female
- (2) Male

23 Age in years:
- (1) 25 or less
- (2) 26 - 35
- (3) 36 - 45
- (4) 46 - 55
- (5) 56 - 65
- (6) 66 or over

24 Total years of your teaching (outside and within UOG, including all educational levels):
- (1) 5 or less
- (2) 6-10
- (3) 11-15
- (4) 16-20
- (5) 21 or over

25 What ethnic background do you identify with the most:
- (1) Chamorro
- (2) Filipino
- (3) Asian (Chinese, Korean, Japanese, Vietnamese, Thai, Indian and other)
- (4) Micronesian
- (5) Other Pacific Islander
- (6) Caucasian
- (7) Other (please specify):

26 Your highest academic degree:
- (1) Associate
- (2) Bachelor
- (3) Master (or equivalent)
- (4) Doctorate (or professional degrees, e.g., law or medicine)
- (5) Other (specify):

Thank you so much for your cooperation!

This paper explored multicultural education at a minority university in the Pacific. This was Phase II of a research project that began in 1999 with the goal of further understanding the practice of multicultural pedagogy in higher education. Phase I measured the attitudes and perceptions of faculty toward diversity and multiculturalism while Phase II attempted to narrow the focus to the actual practice of multiculturalism in the classroom and curriculum. Through survey methodology and descriptive analysis, a picture emerged of the link between perception and actual practice. It was found that faculty ranked high on their willingness to engage and incorporate multicultural strategies in their teaching. Many often did not feel, however, that they had the skills or knowledge to do so. Many also felt that they were not well equipped to deal with a multicultural environment. While the data suggests that many are willing and open to diversity and multiculturalism, they harbor ethnocentric belief systems. It is argued that what seems like contradictions are more likely the leaking of the underlying attitudes and beliefs within an environment influenced by political correctness.

From Theory to Practice: An Analysis of Multicultural Education in an American Pacific Island University

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In this paper, we analyze the theory and practice of multiculturalism in higher education in Guam. In doing so, we explore the experiences of faculty in incorporating multicultural pedagogic strategies at an American Pacific Island University. By encouraging faculty members to examine their own instructional activities as they relate to multiculturalism, we hoped to raise faculty awareness of the realities of diversity, especially at a minority university. We also hoped that faculty members take a step back from their daily busy activities and objectively analyze their own initiatives in addressing the needs of our culturally diverse student body. We were particularly interested in understanding the relationship between perceptions of and attitudes toward multicultural education and actual pedagogic practice in teaching.

Method

With the permission of the Human Resources Office of the University of Guam (UOG), a survey questionnaire was mailed to each of the 198 full-time faculty in 2000. The intended population of the study was the entire UOG full-time faculty. The usable return rate was 33% (N = 65). The largest ethnic group among the faculty that responded to the survey was from a Caucasian background (48%), which was expected because 60% of the entire faculty were Caucasians. The next largest group was Chamorro comprising 23%. Asians made up 5%and Filipino represented 6%. Teaching experience varied considerably with 11% having five or fewer years of teaching, and 25% having more than 21 years.

The questionnaire, consisting of 26 questions in three sections, was developed, piloted, and examined for content validity and reliability by a panel of the faculty. The first section asked the participants to rate 17 questions (such as "How often do you accommodate different viewpoints of your students regardless of their cultural and ethnic background?") on a five-point scale (from 5 = very frequently to 1 = very seldom). Further, one question ("Do you evaluate attitudes and behaviors of other cultural/ethnic groups from your own cultural/ethnic standard?") asked on a five-point scale from 1 = never to 5 = always. The second section has three parts measuring 1) the faculty's practice of multiculturalism in teaching (e.g.,

how often the faculty selected a textbook based on multicultural perspectives), 2) the avenues that the faculty choose to enhance their knowledge about multiculturalism, and 3) the faculty's open-ended comments on the state of multicultural education at UOG. The third section contained five demographic questions, such as gender, age, ethnic background, academic degree, and years of teaching.

Results and Discussion

As seen in Table 1, the three "very frequently" occurring question items were: (1) "support the academic success of your students regardless of their culture and ethnic background" (80%), (2) "have high expectation for your students regardless of their cultural and ethnic background" (66%), and (3) "listen to your students interactively and attentively regardless of their cultural/ethnic background" (66%). The reliability coefficient alpha across the 17 questions was .87. The following three questions had the highest mean scores: (1) "to support the academic success of the students regardless of their cultural and ethnic background" (M = 4.71, SD = .76), (2) "to have higher expectation for the students regardless of their cultural and ethnic background" (M = 4.54, SD = .79), and (3) "to listen to the students interactively and attentively regardless of their cultural and ethnic background" (M = 4.49, SD = .90) (see Table 2).

Question 9 asked, "How often do you integrate multicultural perspectives in teaching?" and faculty ranked relatively high (about 80% answered "very frequently" and "frequently"). Nevertheless, when asked a similar question with a slight change in the specific focus (Q13: "How often do you provide your students with multicultural instructional materials?") respondents who answered in the affirmative dropped to 56%. This draws our attention to the subtle difference between the two questions. One was referring to multicultural perspectives and the other was referring to instructional materials. Only 24% incorporate multicultural instructional materials in teaching. This is understandable when one considers how faculty in higher education is trained to be teachers. It may be that grade school teachers have more training in the art of instruction than do college professors. Faculty in higher education might have good intentions to relate to student perspectives of a multicultural nature, but many of the faculty members have never been trained to incorporate multicultural pedagogic strategies into teaching.

Our second question attempted to explore the level of ethnocentrism in the classroom. A standard sociology text book offers this definition of ethnocentrism: "the use of one's own culture as a yardstick for judging the ways of other individuals or societies, generally leading to a negative evaluation of their values, norms and behaviors" (Henslin, 1997, p. 36). Our sample ranked high on most questions regarding their approach to multicultural education, addressing the diversity needs of students. Faculty make efforts in selecting appropriate textbooks, incorporating students comments into teaching plans, opening discussion encouraging students to participate, and inviting colleagues to observe and offer feedback. These findings are promising and encouraging. Yet, on the question ("Do you evaluate attitudes and behaviors of other cultural/ethnic groups from your own cultural/ethnic standards?"), a surprisingly high number of faculty answered in the affirmative. Ethnocentrism can have severe negative consequences. It can lead to harmful discrimination and unfair treatment toward peoples whose beliefs and behaviors are different from our own. This is unsettling especially in a classroom environment where 60% of the faculty belong to one culture or ethnicity and 92% of the students to another.

Reference

Henslin, J. (1997). *Sociology: A down to earth approach*. Needham Heights, MA: Allyn & Bacon.

Table 1.
Frequencies and Percentages for the 17 Multicultural Education Questions (N = 65)

Questions	Very Frequently	Frequently	Sometimes	Seldom	Very Seldom
1 How often do you accommodate different viewpoints of your students regardless of their cultural/ethnic background?	34 (52.3%)	27 (41.5%)	1 (1.5%)	1 (1.5%0	2 (3.1%)
2 How often do you utilize interdisciplinary approaches in teaching?	1 (1.5%)	16 (24.6%)	22 (33.8%)	11 (16.9%)	0(0.0%)
3 How often do you try to get every student involved in a class discussion?	35 (53.8%)	20 (30.8%)	7 (10.8%)	2 (3.1%)	1 (1.5%)
4 How often do you have high expectations for your students regardless of their cultural/ethnic background?	43 (66.2%)	17 (26.2%)	3 (4.6%)	1 (1.5%)	1 (1.5%)
5 How often do you accommodate different learning styles of your students regardless of their cultural and ethnic background?	27 (41.5%)	23 (35.4%)	13 (20.0	0(0.0%)	1 (1.5%)
6 How often do you have a collaborative and collegial partnership with colleagues from the same cultural and ethnic background in your teaching?	17 (26.2%)	20 (30.8%)	11 (16.9%)	7 (10.8%)	9 (13.8%)
7 How often do you use culturally relevant or responsive textbooks in teaching?	19 (29.2%)	19 (29.2%)	12 (18.5%)	5 (7.7%)	9 (13.8%)
8 How often do you encourage students whose second language are English to express themselves in the classroom?	33 (50.8%)	22 (33.8%)	6 (9.2%)	1 (1.5%)	3 (4.6%)
9 How often do you integrate multicultural perspectives in teaching?	34 (52.3%)	19 (29.2%)	7 (10.8%)	4 (6.2%)	1 (1.5%)
10 How often do you support the academic success of your students regardless of their cultural and ethnic background?	52 (80.0%)	11 (16.9%)	0(0.0%)	0(0.0%)	2 (3.1%)
11 How often do you engage in collaborative/collegial partnership with colleagues from different cultural and ethnic backgrounds in teaching?	23 (35.4%)	26 (40.0%)	9 (13.8%)	4(6.2%)	2 (3.1%)
12 How often do you listen to your students interactively and attentively regardless of their cultural and ethnic background?	43 (66.2%)	16 (24.6%)	3 (4.6%)	1 (1.5%)	2 (3.1%)
13 How often do you provide your students with multicultural instructional materials (in class exercises, using videos, films, etc.)?	25 (38.5%)	12 (18.5%)	12 (18.5%)	7 (10.8%)	9(13.8%)
14 How often do you have high expectations for your students regardless of their cultural and ethnic background?	32 (49.2%)	14 (21.5%)	16 (24.6%)	2 (3.1%)	1 (1.5%)
15 How often do you attempt to eradicate prejudice and stereotypes that your students may have?	41 (63.1%)	17 (26.2%)	4 (6.2%)	2 (3.1%)	1 (1.5%)
16 How often do you accommodate cultural/ethnic differences of your students in the classroom?	39 (60.0%)	16 (24.6%)	8 (12.3%)	1 (1.5%)	0(0.0%)
17 How often do you incorporate that cultural/ethnic differences in your teaching methodology?	23 (35.4%)	21 (32.3%)	16 (24.6%)	3 (4.6%)	2 (3.1%)

Table 2
Descriptive Statistics for the 17 Multicultural Education Questions

Item	M	SD	Minimum	Maximum	N
1	4.38	.86	1	5	65
2	4.08	.84	2	5	62
3	4.32	.90	1	5	65
4	4.54	.79	1	5.	65
5	4.17	.86	1	5	64
6	3.45	1.37	1	5	64
7	3.52	1.40	1	5	64
8	4.25	1.02	1	5	65
9	4.25	.98	1	5	65
10	4.71	.76	1	5	65
11	4.00	1.02	1	5	65
12	4.49	.90	1	5	65
13	3.57	1.45	1	5	65
14	4.14	1.00	1	5	65
15	4.46	.87	1	5	65
16	4.45	.78	1	5	64
17	3.92	1.04	1	5	65

Note: The values represent mean responses to items coded 5 (very frequently), 4 (frequently), 3 (sometimes), 2 (seldom), and 1 (very seldom).